



BEFORE THE
PUBLIC SERVICE COMMISSION OF WISCONSIN

Application of Wisconsin Power and Light Company, d/b/a Alliant
Energy, for Authority to Construct a New Coal-Fired Electric Generation
Unit Known as the Nelson Dewey Generating Station in Cassville, Grant
County, Wisconsin

6680-CE-170

FINAL DECISION

This is the Final Decision regarding the application of Wisconsin Power and Light Company (WP&L) to construct and operate a 300 megawatt (MW) baseload electric generation facility whose primary fuel would be coal. WP&L is seeking a Certificate of Public Convenience and Necessity (CPCN) from the Commission, as provided in Wis. Stat. § 196.491. WP&L proposes to build this facility as Unit 3 of the Nelson Dewey Generating Station (NED 3), located in Cassville, Wisconsin. Although Cassville is its preferred site, as an alternative WP&L would build a 300 MW facility that relies on different technology near Portage, Wisconsin, as Unit 3 of the Columbia Energy Center (COL 3). WP&L also requests that the Commission fix the financial parameters and capital cost ratemaking principles in this proceeding if it issues a CPCN for the project.

The CPCN application is DENIED.

Introduction

WP&L filed a CPCN application on February 13, 2007. It designed NED 3 as a circulating fluidized bed boiler that could burn a range of coal, pet coke, and biomass blends. WP&L proposed that the plant could burn up to 100 percent coal, 100 percent pet coke, and an unspecified biomass

blend of up to approximately 10 percent. WP&L designed the alternative plant, COL 3, as a subcritical pulverized coal boiler that could burn up to 100 percent coal and might be able to burn up to 4 percent biomass. On December 19, 2007, the Commission determined that the CPCN application was complete. This triggered a statutory 180-day period, during which the Commission must complete its review of a CPCN application. The Commission then requested and received an order from Dane County Circuit Court, pursuant to Wis. Stat. § 196.491(3)(g), which extended the review period to 360 days. The Commission's review period expires December 15, 2008. In the course of its project analysis, Commission staff prepared an Environmental Impact Statement (EIS) in collaboration with staff of the Wisconsin Department of Natural Resources and the U.S. Army Corps of Engineers. Commission staff introduced the EIS into the record at the Commission's hearing.

On June 12, 2008, WP&L changed its cost estimates for this project. Whereas in its CPCN application WP&L estimated a capital cost of \$777 million for NED 3 and \$795 million for COL 3, in its new filing WP&L revised the cost estimates to \$1.143 billion for NED 3 and \$1.193 billion for COL 3 to reflect substantial increases in the cost of materials and labor. In written direct testimony, which WP&L filed on June 12, 2008, the company made substantial alterations to the scope of its proposal. WP&L named these revisions its "Carbon Reduction Plan," which included commitments that 20 percent of the heat input to NED 3 would be from biomass fuels, that WP&L would build an additional 200 MW of wind energy, that WP&L would increase its voluntary energy efficiency savings program by 50 percent, and that WP&L would retire its oldest coal-fired facility, Edgewater 3. In written rebuttal testimony it filed in September 2008, WP&L increased its cost

estimates further to \$1.26 billion for NED 3 and \$1.283 billion for COL 3. These revised estimates were approximately 62 percent greater than the estimates included in the application. Commission staff offered evidence that this would be the most expensive conventional coal plant of its size, on a dollar-per-kilowatt basis, ever proposed in the United States.

The mandatory statutory timeline for reviewing a CPCN application prevented the Commission, other regulatory agencies, and other parties to these proceedings from performing a thorough review of the cost or feasibility of WP&L's late-filed Carbon Reduction Plan. The final EIS included an Appendix showing the results of a few supplemental computer modeling runs that Commission staff was able to perform but, because WP&L revised its project so late, the EIS could not otherwise incorporate the company's changes. In Appendices B and C of the EIS, Commission staff concluded that the major proposals of the Carbon Reduction Plan did not appear to be cost-effective, but that a proper analysis of environmental, socio-economic, and economic impacts could not be completed because WP&L had supplied inadequate supporting information and because of the late filing. Commission staff and other witnesses performed further work to the extent feasible in the limited time available, which they introduced as evidence at the Commission hearing.

The Commission held a technical hearing at its Madison offices as well as hearings for the public in Cassville and Portage, Wisconsin, in September 2008. The Commission also collected public comments on its website and by mail, which it entered into the record. The parties filed initial and reply briefs, as well as responses to a briefing memorandum that Commission staff prepared. The parties to this docket are listed in Appendix A. At its open meeting on November 11, 2008, the Commission considered this matter in oral deliberations.

Findings of Fact

1. WP&L has a need to develop new energy supplies.
2. WP&L's project is not in the public interest after considering alternative sources of supply, engineering, economic, and reliability factors.
3. Other forms of electric generation using natural gas, a fuel that ranks higher than coal in the list of energy priorities in Wis. Stat. §§ 1.12 and 196.025, are cost-effective, technically feasible, and environmentally sound alternatives to WP&L's project.
4. Constructing and operating WP&L's project at the estimated cost will add to WP&L's cost of service without proportionately increasing the value or available quantity of its electric service.

Conclusions of Law

1. The Commission has jurisdiction under Wis. Stat. §§ 1.11, 1.12, 196.02, 196.025, 196.371, 196.40, 196.49, and 196.491 to issue this Final Decision.
2. The EIS, which reviews WP&L's CPCN application in the form it was filed when the Commission declared the application complete, complies with Wis. Stat. § 1.11.

Opinion

Need for Additional Generating Resources and Forecasted Load Growth

Wisconsin Statute § 196.491, known as the CPCN Law, controls the construction of large electric generating facilities. Under Wis. Stat. § 196.491(3)(d)2., one of the findings the Commission must make in order to issue a CPCN is, "The proposed facility satisfies the reasonable needs of the public for an adequate supply of electric energy." The record in these proceedings

demonstrates that WP&L does need additional electric generating capacity. WP&L's average baseload unit is 40 years old, it last put a baseload plant into service in 1985, and it relies heavily upon purchased power. If WP&L fails to renew its power purchase agreement (PPA) with Dominion Resources, Inc., for energy from the Kewaunee Nuclear Power Plant (Kewaunee) when the contract expires in 2013, WP&L will be purchasing over one-third of its energy from uncommitted sources.

WP&L's assumptions, however, overestimate its annual energy growth rate over the 50-year life span of this project. WP&L assumed that its customers' use of electric energy would grow at a constant rate of 2.35 percent per year, based upon rolling averages over the preceding 30 years. A slowing economy, volatile fuel and energy prices, announced industrial plant closings in WP&L's service territory, and increased use of energy efficiency programs all reduce the value of long-term historical data. Even in its most recent rate case filing, which was submitted as a delayed exhibit in these proceedings, WP&L projected a significant reduction in load growth. Commission staff, relying upon WP&L's actual load growth rate over the past five years to account for these changes, estimates annual energy growth of 1.63 percent per year. WP&L's actual energy sales in 2007 and 2008 and its forecasted 2009 sales are very close to Commission staff's growth forecast. For these reasons, it is reasonable to assume an annual energy growth rate of 1.63 percent per year when analyzing the most cost-effective additions to WP&L's electric generating capacity.

Computer Modeling Results

Three state laws require the Commission to establish the cost-effectiveness of new electric generating plants before it issues a CPCN. Under Wis. Stat. § 196.491(3)(d)3., the Commission

must determine that “[t]he design and location or route is in the public interest **considering alternative sources of supply**, alternative locations or routes, individual hardships, engineering, **economic**, safety, reliability and environmental factors.” (Emphasis added.) The Energy Priorities Law, Wis. Stat. § 1.12(4), also requires that the Commission consider the cost-effectiveness of energy alternatives. This law provides:

1.12 (4) PRIORITIES. In meeting energy demands, the policy of the state is that, to the extent **cost-effective** and technically feasible, options be considered based on the following priorities, in the order listed:

- (a) Energy conservation and efficiency.
- (b) Noncombustible renewable energy resources.
- (c) Combustible renewable energy resources.
- (d) Nonrenewable combustible energy resources, in the order listed:
 - 1. Natural gas.
 - 2. Oil or coal with a sulphur content of less than 1%.
 - 3. All other carbon-based fuels.

(Emphasis added.) Wisconsin Statute § 196.025(1)(ar) applies the Energy Priorities Law to the Commission by requiring, “[T]o the extent **cost-effective**, technically feasible and environmentally sound, the commission shall implement the priorities under s. 1.12 (4) in making all energy-related decisions and orders, including strategic energy assessment, rate setting and rule-making orders.” (Emphasis added.)

For the past 15 years the Commission and Wisconsin’s electric utilities have used a complex, interactive computer model known as the Electric Generation Expansion Analysis System (EGEAS)¹ to determine what is the most cost-effective unit that a utility should add to its generating

¹ In *Clean Wisconsin v. Public Service Commission*, 2005 WI 93, n. 33, 282 Wis. 2d 250, 700 N.W.2d 768, the state Supreme Court described EGEAS as follows: “EGEAS is ‘a modular production-costing, generation-expansion software tool that is used to find least-cost generation system expansion plans by comparing all combinations of multiple generation options to meet forecasted system load.’ The inputs used included ‘forecasted energy and demand, the economic and engineering characteristics of existing and possible new generation units, fuel price forecasts, known or expected energy purchases or sales, desired reserve margin, and the forecasted cost of emission allowances.’ The complexity of this tool is readily apparent.”

fleet. Computer modeling is not always the decisive factor in making decisions about large infrastructure proposals, but when used properly it is a powerful tool that can describe, with reasonable precision and a primary focus on economics, cost-effective alternatives.

EGEAS calculates the cost of various possible resource additions to a utility's generating portfolio over the long lives of new electric generating plants. Coal plants, for example, can operate 60 years or more. For this reason, Commission staff ran EGEAS using a 30-year planning period (2006 through 2035), plus a 35-year extension period. Commission staff allowed EGEAS to run unconstrained,² picking the best combination of generating options for WP&L under its "base case" set of assumptions, and also completed hundreds of "sensitivity" runs that modified important variables such as the predicted future costs of natural gas and coal, whether WP&L would continue to purchase energy from Kewaunee, and the cost of offsetting greenhouse gases in a future carbon-constrained society. EGEAS produces the net present value cost to ratepayers of the entire WP&L supply portfolio over the planning period, calculating this cost for each type of new generating option that WP&L could add to its existing fleet. EGEAS also estimates the greenhouse gas emissions associated with the resultant generating fleet in each scenario.

These EGEAS runs demonstrate that neither NED 3 nor COL 3 is a least-cost option. Even WP&L's own final EGEAS runs, introduced in its rebuttal testimony, do not support its project. WP&L's computer runs only select NED 3 if EGEAS is forced to do so. When WP&L forced EGEAS to include NED 3, WP&L's present value revenue requirements increased by \$321 million. Comparable Commission staff EGEAS runs, without greenhouse gas monetization, show a

² Because of the nuclear moratorium, EGEAS was prohibited from considering new nuclear generation as an option.

\$173 million increase in WP&L's overall costs if COL 3 is forced into its system, and a \$257 million increase if NED 3 is forced into its system. With greenhouse gas monetization in Commission staff's comparable runs, forcing NED 3 into WP&L's system would increase the utility's costs by \$551 million.

WP&L's base case runs do not assume any future cost to ratepayers to pay for the expenses associated with offsetting greenhouse gas emissions (greenhouse gas "monetization") and do not assume any increase in natural gas costs, which would be likely in a carbon-constrained world that uses less coal and more gas to fuel its electric generating plants. An EGEAS sensitivity run that WP&L performed, which includes a reasonable level of greenhouse gas monetization and a 10 percent rise in natural gas costs, shows that NED 3 would increase WP&L's present value revenue requirements by \$817 million. Part of this additional cost occurs because NED 3 would not adequately control greenhouse gas emissions. Under the same set of inputs, the EGEAS scenarios that include NED 3 all generate more tons of greenhouse gases than the optimal scenario that favors natural gas-fired plants. EGEAS shows that including NED 3 with 20 percent biomass in WP&L's generating fleet even produces more greenhouse gases than substituting a 500 MW, supercritical pulverized coal unit, added in the year 2021. Adding NED 3 would cause WP&L's fleet, over the life of NED 3, to emit 10 million to 46 million more tons of greenhouse gases than the optimal case. Under the best of assumptions, NED 3 would produce 2.155 million tons of greenhouse gases per

year. This large increase in greenhouse gas emissions takes this utility and this state in the wrong direction at a time when carbon constraints are imminent.³

The cost to ratepayers of controlling greenhouse gas emissions cannot be ignored. Yet WP&L, citing Wis. Stat. § 196.491(3)(d)3., alleges that the CPCN Law does not permit the Commission to consider the costs associated with greenhouse gases. This law, which describes some of the findings the Commission must make before issuing a CPCN, includes a proviso:

196.491(3)(d)3. The design and location or route is in the public interest considering alternative sources of supply, alternative locations or routes, individual hardships, engineering, economic, safety, reliability and environmental factors, except that the commission may not consider alternative sources of supply or engineering or economic factors if the application is for a wholesale merchant plant. **In its consideration of environmental factors, the commission may not determine that the design and location or route is not in the public interest because of the impact of air pollution if the proposed facility will meet the requirements of ch. 285.**

(Emphasis added.) While under some circumstances this statute does not allow the Commission to address air pollution when it is considering environmental factors, the monetization of greenhouse gases concerns a CPCN project's economics, not its environmental factors. The Commission recognizes and the state Supreme Court affirmed in *Clean Wisconsin v. Public Service Commission*, 2005 WI 93, ¶ 150, 282 Wis. 2d 250, 700 N.W.2d 768, that health-related costs associated with air pollution are outside the scope of the Commission's authority. However, the costs that a utility will likely incur to comply with future greenhouse gas regulations, costs that will be included in utility

³ Although WP&L promotes its Carbon Reduction Plan as offsetting NED 3's greenhouse gas emissions, much of its touted greenhouse gas reductions come from commitments already made and projects already submitted for Commission review. The new elements of the plan only partially compensate for the additional greenhouse gases of WP&L's project. Even WP&L's pledge to retire Edgewater 3 exaggerates the reduction in carbon emissions because WP&L has significantly overstated that plant's actual capacity factor. The Carbon Reduction Plan was submitted too late and was too poorly developed to be fully reviewed in this CPCN proceeding. Its new elements may indeed have merit and deserve to be explored further, but this is not an appropriate docket to evaluate them.

rates, are precisely the type of economic factors that the CPCN Law directs the Commission to consider and that the Commission has included in its EGEAS runs. As the Supreme Court stated in *Clean Wisconsin*:

Deciding what economic factors are, or are not, to be included in the computer model is precisely the type of determination that the PSC should be given great deference to carry out, because it is operating well within its area of expertise and it is much better suited to make those decisions than is the judiciary. “It is not the function of a reviewing court to dictate the economic analysis to be employed in a decision [that] is based upon the expertise and lies within the discretion of the PSC.” *Seebach v. PSC*, 97 Wis. 2d 712, 728, 295 N.W.2d 753 (Ct. App. 1980).

Id., ¶ 151.

WP&L also argues that NED 3 is cost-effective, notwithstanding the EGEAS results, because of other economic development benefits that the project could provide. WP&L points to the expansion of local jobs from construction work, plant operation, and plant maintenance, and it maintains that NED 3’s use of biomass would spur a local agricultural market. WP&L’s witnesses testified that these external economic benefits could reach as much as \$85 million per year within five years after NED 3 commences operation. WP&L asserts that the Commission may consider these benefits under Wis. Stat. § 196.491(3)(d)3., which lists “economic . . . factors” as an element of the Commission’s public interest determination.

In so arguing, WP&L assumes that the economic factors contemplated by Wis. Stat. § 196.491(3)(d)3. extend beyond the economic costs and benefits that are assumed by ratepayers. Even if WP&L’s broad reading of “economic factors” were correct, the local economic development benefits it cites are not enough to overcome the high costs to ratepayers of its project.

Regardless, in this decision, the Commission did not reach consensus on the breadth of the economic factors that may be considered in its CPCN analysis.⁴

WP&L claims that constructing NED 3 and its associated transmission infrastructure would provide additional transmission benefits by lowering the Locational Marginal Prices that utilities must pay through the Midwest Independent Transmission System Operator. The record shows that this benefit would be approximately \$8 million per year for Wisconsin utilities, an amount that is already incorporated into Commission staff's EGEAS runs.

WP&L also attempts to maximize the value of its project by making small plant modifications so the unit would be ready for carbon capture retrofitting when greenhouse gases must be constrained. This could save money in the long run, but the technology for carbon capture and sequestration is so experimental and so far from commercial viability that the cost of retrofitting plants with carbon capture and sequestration technology is unknown. Given that the NED 3 and COL 3 sites are both a long distance from any likely sequestration repository, the cost of this technology would probably be a significant addition to the cost of WP&L's project.

The EGEAS runs show that if the Commission were to approve the construction of WP&L's project, it would be authorizing a project that is substantially more expensive and emits substantially more greenhouse gases than other reasonable alternatives. The biomass component of NED 3 offers

⁴ While the Commission takes no position on whether local economic development benefits can be considered, the record in this case suggests that WP&L overstated the value of these benefits. The Wisconsin Industrial Energy Group (WIEG) pointed out that local job impacts are not unique to NED 3 and that WP&L failed to include the same economic impacts with respect to other options, including the construction of a natural gas combined-cycle facility. Furthermore, given NED's uncertain ability to use biomass and the fact that reliable sources of the large amounts of biomass needed to fuel the plant have not yet developed, the economic local agricultural benefits can only be speculative. Finally, WIEG pointed out that much of these intangible economic benefits may accrue to residents of Iowa or Minnesota, not Wisconsin, but the costs of WP&L's project would fall only on the Wisconsin ratepayers served by WP&L.

real value because it is a powerful, clean economic engine for many parts of Wisconsin. At its heart, though, this project is a coal plant. Better biomass projects than this are in Wisconsin's future.

Alternative Sources of Supply

The record demonstrates that a number of possible alternatives are more cost-effective than WP&L's project. Natural gas-fired combined-cycle units are one option that EGEAS favors, and WP&L's witness agreed that these units can be used for baseload power on WP&L's system. They are generally less expensive to build than baseload coal units, and some already-existing combustion turbine units in Wisconsin could be converted to combined-cycle operation. For example, earlier this year the Commission issued an order authorizing WP&L to acquire two 150 MW combustion turbine units that are located in Neenah.⁵ In its order, the Commission noted that this facility has additional value because it can be converted from simple-cycle to combined-cycle operation. The RockGen combustion turbine unit in Cambridge is also designed so it could be converted to combined-cycle operation, and WP&L has an option to purchase this facility.

WP&L properly points out that the future price of natural gas is uncertain and gas-fired units emit their own levels of greenhouse gases. The EGEAS runs in the record, however, reasonably account for these variables just as they account for the greater greenhouse gas risks and higher capital costs of WP&L's project. In addition, WP&L's coal-based project has a higher risk of construction delays, while natural gas-fired units offer greater flexibility because they can be operated as either intermediate or baseload units.

⁵ Final Decision, *Application of Wisconsin Power and Light Company*, dockets 6680-EB-104 and 6680-EA-110 (April 11, 2008).

The record identifies another alternative for WP&L to consider: PPAs with other Wisconsin utilities. Three large, new, coal baseload units are now operating or will soon commence operation in Wisconsin. A reasonable alternative to WP&L's project may be a PPA for power from these units. EGEAS supports this option as a less expensive alternative than WP&L's project. While WP&L's long-term plans should not overly rely on PPAs, these contracts do provide a bridging opportunity in times of turbulent markets and times of future regulations, yet adopted, to control global warming.

Public Interest Determination

The record demonstrates that WP&L's project is not cost-effective, even with the addition of the Carbon Reduction Plan, when compared against other options. These options are technically feasible and environmentally sound. In addition, the options that would burn natural gas are higher priorities under the Energy Priorities Law than WP&L's project, which would entirely or almost entirely burn coal or pet coke. For these reasons, authorizing the construction of WP&L's project would not be in the public interest under the CPCN Law and would not implement the Energy Priorities Law. This determination does not reflect a Commission policy in opposition to coal-fired or other fossil fuel generation, only that this particular proposal fails to meet the requirements of a CPCN. As required by Wis. Stat. §§ 1.12(4), 196.025(1)(ar), 196.371(3)(a), 196.49(3)(b)3., and 196.491(3)(d)3. and 5., the Commission must deny WP&L's request for a CPCN and its request that the Commission set fixed financial parameters and capital cost ratemaking principles.

Order

1. WP&L's application for a CPCN is denied.

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2. WP&L's request that the Commission set fixed financial parameters and capital cost ratemaking principles is denied.

3. This Final Decision takes effect on the day of mailing.

4. Jurisdiction is retained.

Dated at Madison, Wisconsin, December 12, 2008

By the Commission:



Sandra J. Paske
Secretary to the Commission

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Attachment

See attached Notice of Rights

PUBLIC SERVICE COMMISSION OF WISCONSIN
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Madison, Wisconsin 53707-7854

**NOTICE OF RIGHTS FOR REHEARING OR JUDICIAL REVIEW, THE TIMES
ALLOWED FOR EACH, AND THE IDENTIFICATION OF THE PARTY TO BE
NAMED AS RESPONDENT**

The following notice is served on you as part of the Commission's written decision. This general notice is for the purpose of ensuring compliance with Wis. Stat. § 227.48(2), and does not constitute a conclusion or admission that any particular party or person is necessarily aggrieved or that any particular decision or order is final or judicially reviewable.

PETITION FOR REHEARING

If this decision is an order following a contested case proceeding as defined in Wis. Stat. § 227.01(3), a person aggrieved by the decision has a right to petition the Commission for rehearing within 20 days of mailing of this decision, as provided in Wis. Stat. § 227.49. The mailing date is shown on the first page. If there is no date on the first page, the date of mailing is shown immediately above the signature line. The petition for rehearing must be filed with the Public Service Commission of Wisconsin and served on the parties. An appeal of this decision may also be taken directly to circuit court through the filing of a petition for judicial review. It is not necessary to first petition for rehearing.

PETITION FOR JUDICIAL REVIEW

A person aggrieved by this decision has a right to petition for judicial review as provided in Wis. Stat. § 227.53. The petition must be filed in circuit court and served upon the Public Service Commission of Wisconsin within 30 days of mailing of this decision if there has been no petition for rehearing. If a timely petition for rehearing has been filed, the petition for judicial review must be filed within 30 days of mailing of the order finally disposing of the petition for rehearing, or within 30 days after the final disposition of the petition for rehearing by operation of law pursuant to Wis. Stat. § 227.49(5), whichever is sooner. If an *untimely* petition for rehearing is filed, the 30-day period to petition for judicial review commences the date the Commission mailed its original decision.⁶ The Public Service Commission of Wisconsin must be named as respondent in the petition for judicial review.

If this decision is an order denying rehearing, a person aggrieved who wishes to appeal must seek judicial review rather than rehearing. A second petition for rehearing is not permitted.

Revised July 3, 2008

⁶ See *State v. Currier*, 2006 WI App 12, 288 Wis. 2d 693, 709 N.W.2d 520.

APPENDIX A
(CONTESTED)

In order to comply with Wis. Stat. § 227.47, the following parties who appeared before the agency are considered parties for purposes of review under Wis. Stat. § 227.53.

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BEFORE THE
PUBLIC SERVICE COMMISSION OF WISCONSIN

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Energy, for Authority to Construct a New Coal-Fired Electric
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Cassville, Grant County, Wisconsin

6680-CE-170

CONCURRENCE OF COMMISSIONER LAUREN AZAR

I agree with the outcome and the reasoning of the majority opinion, but write separately to articulate my own position on three issues: carbon monetization, Wisconsin Power and Light Company's (WP&L) Carbon Reduction Plan (CRP) and Electric Generation Expansion Analysis System (EGEAS) modeling.

Carbon Monetization

The majority opinion states that WP&L's sensitivity run in EGEAS included "a reasonable level of greenhouse gas monetization." (Page 8.) I agree that the carbon-monetized sensitivity runs conducted by both WP&L and Commission staff were sufficient to show that this application was not cost-effective; however, I am not convinced that the cost of carbon used in those runs adequately captures the effects of a carbon-constrained world.

During the hearing, I asked many witnesses precisely what the carbon cost was intended to reflect. I received many different and, sometimes, contradictory answers. I am concerned that the carbon costs used in the EGEAS runs failed to reflect: (1) an 80 percent national reduction in carbon by 2050; and (2) the limited carbon-mitigation methods that are available in the state of Wisconsin. Though Wisconsin may be able to purchase allowances to avoid the full 80 percent

reductions, no witness disputed that Wisconsin will be forced to drastically reduce its carbon emissions.

I suspect that the cost of reducing carbon emissions for a state will be inversely related to the availability of carbon-mitigation methods. States with fewer carbon-mitigation tools will pay whatever the prevailing market price for a carbon dioxide (CO₂) allowance, until the cap is hit. Once the cap is hit, these states will be forced to implement whatever carbon-reduction methods are available, regardless of cost. In contrast, a state with plentiful carbon-mitigation methods, such as geologic sequestration sites, strong wind and solar resources, and the ability to build nuclear plants, can pick the least-cost option between purchasing CO₂ allowances or implementing actual carbon reductions.¹ Hence, simply relying on national averages for the cost of carbon is inappropriate for Wisconsin. In determining what infrastructure to build in Wisconsin, I believe our modeling assumptions must reflect the unique circumstances that our state faces.

When asked whether the Commission staff's assumptions captured the cost of reducing carbon by 2050, staff witness Dennis Koepke reported that, due to the high discount rate of 9 percent, costs incurred near 2050 have minimal effect in a present value analysis.

(Tr. 2892-93.) Higher discount rates emphasize near-term costs and benefits over long-term costs and benefits. When we know, as we do now, that large costs will likely be incurred in the long term, it would be more accurate to use a lower discount rate. To appropriately evaluate Wisconsin's options for achieving massive carbon reductions, I urge the Commission to re-evaluate its use of a high discount rate in all future EGEAS runs.

¹ While biomass and terrestrial sequestration are plentiful, Wisconsin has no geologic sequestration sites, marginal terrestrial wind and solar resources, and a nuclear moratorium on the construction of new nuclear plants.

WP&L's Carbon Reduction Plan (CRP)

The majority opinion captures the confusion created by WP&L's submission of its CRP into the record, seven months after the application was deemed complete. Though parts of the CRP were clearly revisions to WP&L's original application—such as increasing the biomass fuel at the Nelson Dewey Generating Station (NED) to 20 percent—other parts of the CRP were just as clearly outside of the scope of this docket, such as its proposal to build wind farms in Iowa. Before receiving the CRP, staff had already completed its quantitative analysis of the WP&L application and released its Draft Environmental Impact Statement. The lateness of the CRP caused significant confusion such that Commission staff and the intervenors did not know what application they were evaluating.

The majority opinion implies that all components of the CRP were considered as part of the application. (Page 3.) However, during the hearing, WP&L admitted that it did not consider the CRP to be part of this application. (Tr. 62.) In my decision-making, I considered the increase in biomass at NED 3, but nothing else from the CRP. Regardless, the majority opinion is correct: even if the full CRP is considered as part of the application, the statutory standards are still not met, and WP&L's application must be rejected.

I raise the CRP not only to explain my position in this case, but also to highlight the danger of substantially amending a construction application after the completeness determination

has been made. Had the Commission approved this application, I believe the question of what project was properly before the Commission would have been ripe for appeal.²

Electric Generation Expansion Analysis System Modeling

The majority opinion states that the EGEAS model, when used properly, identifies cost-effective alternatives “with reasonable precision and a primary focus on economics.”

(Page 6.) While EGEAS has served the Commission well in the past, to help identify generation alternatives, it can only minimally consider transmission alternatives. Now that Wisconsin participates in a large regional transmission power pool with central dispatch, the models that utilities and the Commission use for long-term planning should recognize this new reality. Where appropriate, I hope that applicants and the Commission will consider using a model or models that can compare both generation and transmission alternatives. This would allow us to identify the most cost-effective alternatives for serving demand in Wisconsin.

Dated at Madison, Wisconsin, December 11, 2008



Lauren Azar
Commissioner

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² To be clear, the problem with the CRP was: (1) when WP&L submitted it to the record, and (2) WP&L's lack of clarity about whether it was part of the application. In the future, I could foresee the need to address a number of projects simultaneously, like was outlined in the CRP. Individually, the projects may not comply with the Certificate of Authority (CA) or Certificate of Public Convenience and Necessity (CPCN) statutes, but collectively they would. It would be helpful if the CA and CPCN statutes would explicitly allow the bundling of projects into a portfolio that would then be considered collectively and would allow implementation of the portfolio over a number of years.